

WHAT IS CLAIMED IS:

1. A wireless transceiver for implantable medical devices,
comprising:

a first coil winding wound around its coil axis in a first direction;

5 at least one second coil winding wound around its coil axis in a
second direction non-parallel with said first direction; and

at least one circuit board having at least one control circuit;

wherein said first and said second coil windings are electrically
connected to said control circuit of said circuit board respectively.

10 2. The wireless transceiver of claim 1, further comprising a
magnetic sensor having a first coil axis and at least a second coil axis
non-parallel with said first coil axis; wherein said first coil winding is
wound around said first coil axis of said magnetic sensor while said second
coil winding is wound around said second coil axis of said magnetic sensor.

15 3. The wireless transceiver of claim 2, wherein said magnetic sensor
is made of a ferrite core.

4. The wireless transceiver of claim 1, wherein said first coil axis
and said second coil axis are disposed in an orthogonal manner.

5. The wireless transceiver of claim 2, wherein two said second coil
20 axes are provided, and said second coil axes are disposed not only
orthogonal to each other but also orthogonal to said first coil axis.

6. The wireless transceiver of claim 5, wherein two said second coil
windings are provided, and said second coil windings are wound around
said two second axes on said magnetic sensor respectively.

7. The wireless transceiver of claim 1, wherein said first coil winding is electrically connected to said control circuit.

8. The wireless transceiver of claim 6, wherein said second coil winding is electrically connected to said control circuit.

5 9. The wireless transceiver of claim 1, wherein said control circuit includes a first control circuit and a second control circuit.

10. The wireless transceiver of claim 9, wherein said first coil winding is electrically connected to said first control circuit.

10 11. The wireless transceiver of claim 10, wherein said second coil winding is electrically connected to said second control circuit.

12. The wireless transceiver of claim 1, further comprising an antenna set having a RF antenna set and a transmitter circuit for controlling the action of said RF antenna set.

15 13. The wireless transceiver of claim 12, wherein said antenna set further comprises a controller having a third control circuit for controlling said transmitter circuit.

14. The wireless transceiver of claim 1, wherein the number of circles of said first coil winding corresponds to the number of circles of said second coil winding.